Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In Re Petition of

Octatron, Inc. and Chang Industry, Inc. ET Docket No. 05-356

For Waiver of Sections 15.247(b), 15.247(e),
and 15.249(a) of the Rules and Regulations

OPPOSITION OF
SPRINT NEXTEL CORPORATION

Octatron, Inc. and Chang Industry, Inc. (collectively, Octatron) have petitioned for waiver of Sections 15.245(b), 15.247(e), and 15.249(a) of the Commission's rules to deploy two types of wireless camera transmitters in the unlicensed spectrum of the 902-928 MHz band.[1] Sprint Nextel Corporation (Sprint Nextel) opposes this request for two reasons: (1) the likelihood of harmful in-band interference to systems that operate in the 902-928 MHz unlicensed band; and (2) the potential harmful out-of-band interference to specialized mobile radio (SMR) operations.

First, Octatron's proposed devices appear likely to generate harmful, in-band interference to Sprint Nextel's Direct Talk service. Direct Talk is an all-digital, off-network walkie-talkie service that works between compatible phones within a range of up to six miles. Direct Talk operates on the same 900 MHz unlicensed bands as Octatron's proposed devices. Direct Talk provides off-network communications when Sprint

[1] *See Petition of Octatron, Inc. and Chang Industry, Inc. for Waiver of Sections 15.245(b), 15.247(e), and 15.249(a) of the Commission's Rules and Regulations,* ET Docket 05-356 (filed, Nov. 28, 2005). Octatron asks the Commission to waive the spectral density limits of Section 15.245(b) and the power limits of Section 15.247(e) to permit its analog device to operate at an EIRP of 1 watt. Octatron also ask the Commission to waive the power limits in Section 15.249(a).

Nextel's iDEN network is not available. This valuable service is ideal for use in remote locations, as a back up for emergency situations, or when network coverage may not be available – precisely those situations where the public safety officials whose interest Octatron purports to serve may need to depend on reliable, off-network communications, such as Sprint Nextel's Direct Talk service. To permit the Commission to evaluate the in-band interference that Octatron's proposed devices may cause, Octatron must at a minimum describe the bandwidth that its proposed devices would use, whether the devices will use a fixed-frequency or a frequency-hopping technology, and the emissions expected from these devices over the entire 902-928 MHz band.[2] Without this rudimentary information, no one can determine the severity of the harm that Octatron's devices will cause existing unlicensed devices, and Octatron's waiver must be denied notwithstanding whatever purported benefits its proposed devices might offer.

Second, Octatron's proposed one-watt, analog transmitter, which will operate in the 902-928 MHz band, may cause harmful interference to adjacent-band SMR operations in the 896-901 MHz band.[3] SMR licensees currently experience base station interference from the cellular carriers' base station transmitters, which are located in near-adjacent spectrum, due to insufficient filter roll-off from the cellular carriers' transmitters. While cellular carriers have pledged to help resolve the interference problems they create by installing additional filters and taking other mitigation measures, Sprint Nextel remains concerned that the Octatron devices could cause similar receiver desensitization particularly if the proposed devices were used in close proximity to an SMR base station. Unlike Direct Talk, which is deployed in only a percentage of Sprint

[2] If Octatron's proposed devices will use a fixed frequency, Octatron must identify the precise frequency it intends to use.

[3] The 896-901 MHz band is paired with the 935-940 MHz band.

Nextel's installed base of handsets, virtually every iDEN SMR subscriber may have the potential of experiencing out-of-band interference from one of Octatron's proposed devices. Moreover, the Commission spent two-and-a-half years evaluating interference in the 800 and 900 MHz band and then adopted a complex, $4.86 billion strategy to limit the potential for interference to public safety operations. Under the 800 MHz rebanding decision, Sprint Nextel must shift some of its operations to its 900 MHz SMR frequencies and interference-free access to this licensed spectrum represents an extremely important component toward successful and timely completion of the Commission's 800 MHz Order. Unpredictable scattershot interference from Octatron's analog devices would call into question one of the prerequisites of the *800 MHz Order* – replacement spectrum for commercial operations.

In addition to the threat of out-of-band interference from a properly tuned Octatron device, throwing or tossing the Octatron devices may cause the devices' transmissions to drift from the unlicensed band into licensed spectrum due to forceful impact of the radio transmitter with the ground. Octatron must explain how a device that is intended to be tossed or thrown in an emergency will remain on-channel, rather than in adjacent-channel SMR spectrum. For example, is the Octatron radio crystal controlled or synthesizer controlled? While a crystal-controlled radio might be somewhat more robust to impact with the ground, Octatron should provide additional detail about the device's internal circuitry and indicate whether or not the transmitter incorporates a crystal referenced frequency control keep to off-frequency operation from occurring. If the Octatron radio does not include a crystal-referenced frequency control, then exactly what frequency protection circuits, if any, exist to prevent off-channel operations? Octatron

has provided no information indicating that a radio intended to be thrown hundreds of feet will remain on frequency after impact. Analyzing the precise public interest harm that grant of Octatron's waiver request requires the Commission and the public to understand the proposed devices' out-of-band emissions characteristics – something that Octatron has rather conspicuously omitted from its petition.

Waiver is appropriate only if special circumstances warrant a deviation from the general rule, and such a deviation would better serve the public interest than strict adherence to the rule.[4] The Commission has consistently held petitioners to a high standard before granting a waiver because the Commission must presume that its own rules are valid.[5] Octatron's waiver petition lacks even the most basic information necessary to determine the severity of the interference that unlicensed devices and licensed SMR systems would experience. Without this information, the Commission cannot determine whether a deviation from the Commission's rules would better serve the public interest than adherence to the rules that other operators have relied upon in developing and deploying their licensed and unlicensed systems. On this ground alone, Octatron's waiver petition must be denied.

Octatron, moreover, has failed to demonstrate any compelling justification for a waiver in this case. While ostensibly designed to serve public safety needs, Octatron's devices are just as likely to disrupt public safety uses as they are to serve them by forcing public safety officials to choose between reliable, off-network coverage for emergency communications purposes and video operations for surveillance purposes. Equally important, the Commission has already authorized a device very similar to Octatron's

[4] *WAIT Radio v. FCC*, 418 F.2d 1153, 1158 (D.C. Cir. 1969), *cert. denied*, 409 U.S. 1027 (1972) (*WAIT Radio*).
[5] *WAIT Radio*, 418 F.2d at 1157; *see* 47 C.F.R. § 1.925.

that operates with a different frequency configuration. The Remington Eyeball surveillance system, which Sprint Nextel had originally opposed on similar grounds until Remington clarified that it did not seek a waiver of the Part 15 rules in the 902-928 MHz band, can serve same need as Octatron's devices without disrupting sensitive 900 MHz communications. The availability of viable, non-interfering alternatives eliminates any need to adopt a waiver in this case.[6]

Sprint Nextel opposes grant of the Octatron's petition for waiver because the device poses a serious interference threat to licensed and unlicensed networks with no compelling public interest benefit that is not already available through other means. The Commission should deny and dismiss the Octatron waiver petition.

Respectfully submitted,

SPRINT NEXTEL CORPORATION

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[6] *C.f.* 47 C.F.R. § 1.926(b)(3)(ii) (indicating that the Commission may grant a waiver when the applicant, unlike Octatron in this case, "has no reasonable alternative").

TECHNICAL CERTIFICATION
OF LEONARD M. CASCIOLI

I, Leonard M. Cascioli, under penalty of perjury, hereby declare that the following is true and correct to the best of my information, knowledge and belief:

1. I am employed by Sprint Nextel Corporation and have twenty-two years experience in wireless technologies. I am qualified to provide the opinions and analyses presented in this Declaration.

2. Facts and statements concerning the likelihood of interference as contained herein are consistent with sound engineering principles and practices.

Executed January 30, 2006,

/s/ Leonard M. Cascioli

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CERTIFICATE OF SERVICE

I, Victoria Petty-Nawrath of Sprint Nextel Corporation do hereby certify that on this 30th day of January, 2006, a copy of the foregoing "OPPOSITION OF SPRINT NEXTEL CORPORATION" was mailed to the following:

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January 30, 2006